

A room with a ear

Possessing a great music system is not enough. You need the right room too. **Sanjiv Malvi** tunes you in to the finer points of a listening room



Let's get started

To begin with, rough in the speakers to approximate positions in the room. The rule of thumb is to place them along the shorter wall. Measure the length of the wall behind the speakers. Divide this by three. This number will give you the approximate distance between the nearest side wall and speaker.

After having roughed in your speakers, sit in your favourite listening position. Have somebody move the speakers, until you are satisfied with the tonal balance and level of what you hear from the left and right speakers. Proper placement will help clean up the bass and lower mid-range to a great extent. To further clean the mid bass, pull the speakers further out into the room away from the back wall.

Imaging audio

Imaging is the single most significant factor that separates a mediocre performance from a

truly audiophile experience. When you playback music in your room, the sound hits a boundary. It is either absorbed or reflected back into the room. It may even pass through to the other side of the wall. The degree to which sound is absorbed or reflected by the

surfaces it encounters has a profound effect on the final sound quality. The effect is so profound that acousticians assign 'absorption coefficients' to different materials.

Simply put, a coefficient of '1' implies complete absorption, while '0' implies complete



reflection of sound back into the room. A coefficient of '1/2' implies that half the sound is absorbed and the other half is reflected back into the room.

Rooms with low absorption coefficients have hard, smooth surfaces, such as painted plaster, tiles and undraped glass windows. A loud room where the sound bounces around a lot,

The listening room is the last link in a chain that goes back to the recording of a musical performance. The best-sounding rooms have:

- High ceilings
- Solid floors
- Mirrored walls or expansive windows
- Walls that are not inordinately absorbent (shag carpeting, wall tapestries)
- Rectangular rooms instead of squarish ones.

it will absorb. Floor reflections can also be minimised by placing a speaker on a stand and angling it slightly upwards.

Minimising ceiling reflections is more difficult, but worth the effort. You can use ceiling tiles made of fibreglass, wood stock or foam. Decor-friendly wood-fibre panels can also be used.

A 'slap-back' echo is created when sound bounces off the wall opposite the speakers. Normally, 'diffuser panels' are used to solve this problem. You could even hang heavy drapes across this wall, or simply move in a large bookcase stacked with books of different sizes.

Most rooms have parallel walls, ceilings and floors. When sound bounces back and forth between parallel surfaces, it leads to unnatural noise. If you can't rebuild your room, use 'tube traps' to control this bouncing sound. Tube traps are fabric-covered columns stuffed with fibreglass. They are placed strategically along the boundaries of a room, especially near corners.

If you don't want to splurge on tuning up your room with special devices, you could move a couch or a bookcase, slap down a rug, hang or close some drapes, add cushions to chairs and even try relocating your speakers

till it dies out is called 'acoustically live'. Rooms which have plush carpeting, draped windows and overstuffed furniture, absorb sound easily. They are generally quiet, and hence are called 'acoustically dead'.

Action on reflection

Floor and ceiling reflections degrade sound quality the most, and should be minimised at all costs. Such reflections blur the quality of music and deter the imaging, making it harder to locate instruments and perceive the subtleties in a recording.

Floor reflections can be minimised by having a thick wall-to-wall carpet or rug. The thicker the rug, the more sound

Bare minimum

Remember that great sounding music is not just the result of great equipment. Accurate and stable imaging provide an accurate location of each musical instrument, thus enhancing the joy of listening.

For all this, a listening room is of vital importance. If you don't want to splurge on tuning up your room with special devices, you could move a couch or a bookcase, slap down a rug, hang or close some drapes, add cushions to chairs and even try relocating your speakers. And the next time you listen to music, you won't be able to wipe off that broad grin on your face.